

**REMARKS**

1. The Examiner stated: "The disclosure is objected to because of the following informalities: The quality of the text of the specification is poor. Several pages of the specification including the claims and abstract contain lines that are hard to read due to a lack of toner or other ink transfer problems. Appropriate correction is required."

The Applicant apologizes for the poor quality and encloses herewith a high quality copy of the originally submitted application. This will satisfy this objection.

2. The Examiner stated: "The disclosure is furthermore objected to because of the following informalities: Page 3 of the specification contains a hyperlink. Embedded hyperlinks or other forms of browser executable code are impermissible and require deletion. Appropriate correction is required."

The Applicant has removed the hyperlink, which will satisfy this objection.

4. The Examiner stated: "Claim 33 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term 'great depth' in claim 33 is a relative term that renders the claim indefinite. The term 'great depth' is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention. Although the specification sites (sic) the term 'very great depth' as normally a mile or more, the claim fails to distinctly point out and claim the range of depths at which the camera is claimed to be operable."

The Applicant has amended Claim 33 to recite "a depth of at least a mile" instead of "great depth". Support for this amendment can be found at page 11, line 25. No new matter has been added. This amendment overcomes this rejection.

6. The Examiner stated: "Claims 1-5 and 21-25 are rejected under 35 U.S.C. 103(a) as being anticipated by Kamata (US 6128441) in view of Ford (US 6091443.) As for claim 1, Kamata teaches a waterproof case for a camera, which the examiner interprets as hermetically sealed or airtight, comprising a digital electrical signal interface and converter for downloading remote control information from the camera. (See column 2, lines 21-27.) The examiner interprets the signal transmission part (2) of figure 2 as

encompassing both the interface and converter of claim 1. Both the digital camera and the converter are enclosed within the housing (see figure 2) and the enclosure is transparent to both an area of an optical lens so that pictures may be taken through the enclosure (24) and the radiation signal output of the converter so that image information is communicable exterior to the camera (22.) (See figure 3 and column 4, lines 55-63.) Kamata is silent on the camera as transmitting image information. Ford, however, teaches an underwater viewing system that transmits image signals from the camera assembly via a cable. (See column 2, lines 30-39.) It would have been obvious to one of ordinary skill in the art to use the housing and converter of Kamata for the camera of Ford in order to transmit image information without having to remove the memory from within the housing. It would have been furthermore obvious to one of ordinary skill in the art to combine the camera of Ford in the housing of Kamata in order to wirelessly transmit image signals from the camera to a remote location so that transmission of image information would not be limited by the length of the cable.”

The Applicant respectfully traverses this rejection. There are major structural differences between the Kamata invention and the instant invention.

First, the case in Kamata is not hermetically sealed. The specific meaning of “hermetically sealed” is defined in the specification from page 9, line 14 to page 10, line 4. Kamata’s case is openable and has a hinge, and the camera can be inserted into and removed from the case at will. See all Figures. The case of Kamata must also have seals otherwise it would leak like a sieve when immersed in water. The Kamata case incorporates air and this must be operated at limited depths of perhaps 300 feet maximum. The only reason that Kamata does not mention these facts or identify the hinge or seals is that it is obvious: his invention is an improvement on well known existing underwater camera cases.

In the instant invention, the case is hermetically sealed and not openable. The camera is permanently encased inside the enclosure. It is not possible insert and remove the camera from the enclosure at will. See page 18, line 24 to page 19, line 24 and Figure 1 and 2. It will be seen from the Figures in particular that no parting line or hinges are illustrated. This is why all controls are operated from outside of the enclosure, the battery is charged by induction, and image information is transmitted radiatively through the enclosure wall.

Second, the signal transmission part of Kamata is only designed to transmit control signals to the camera. See column 3, lines 1-14 and Figures 2, 3 and 4. In the instant invention, image information is transmitted from the camera to outside the enclosure. See page 21, line 31 to page 22, line 2 and Figures 3 and 8.

The above explanations should be sufficient in themselves to convince the Examiner that her rejection is not well founded. But in addition, the Ford citation is inapposite.

First, in Ford, the underwater camera is linked via transmission lines to a display on the boat. The transmission lines are connected at all times to the camera. In particular the lines are connected to the camera while it is operating under water so that images are constantly transmitted to the display. In addition there is no provision in Ford for storage of images at the location of the camera. In contrast, in the instant invention, images are stored on a storage medium within the camera while the camera is in operation underwater. See User's Guide for Kodak DC 210, copy enclosed, particularly pp 2-7 to 2-8. When the camera in its enclosure is removed from the water, the image information is wirelessly downloaded from the storage medium. See page 21, line 26 to page 22; line 7, page 27, line 20 to page 28, line 1; and Figures 3 and 8. The infra red and rf devices specified will operate only over a short distances in air and certainly will not transmit in sea water. It is anticipated in the instant invention that the camera in its enclosure will be placed immediately adjacent the PC for downloading. It is completely unnecessary to download over distances of 200 feet or more. In addition it would be impossible to have a PC and the attached receiving module under water.

Second, no converter is required in Ford. The converter in the instant invention is required to convert digital image information into ir or rf. A video camera of the type envisioned in Ford simply outputs a video signal which can be fed directly by wire to a monitor.

For all the above reasons, Applicant submits that it would not be obvious to one of ordinary skill in the art to combine the housing and converter of Kamata with the camera of Ford in order to transmit image information without having to remove the memory from within the housing. Furthermore, it would not be obvious to one of ordinary skill in the art to combine the camera of Ford in the housing of Kamata in order to wirelessly transmit image signals. Moreover it is not at all possible nor desired to wirelessly transmit image information under water.

In order to more completely distinguish his invention from the cited prior art, Applicant has amended claims 1 and 21 to:

- 1) recite that the converter converts signals from the digital electrical signal interface – support can be found at page 21, line 23;
- 2) recite that image information is communicable exterior to the enclosure rather than the camera – support can be found from page 21, line 31 to page 22, line 2, and Figures 3 and 8;
- 3) add the fact that the enclosure is double walled or further comprises an inner casing and an outer casing with the digital electronic camera being disposed within the inner casing and the inner casing being disposed within the outer casing – support can be found at page 19, lines 2-5, and Figures 1, 3 and 8.

The above listed arguments and amendments should be sufficient to overcome this rejection.

7. The Examiner stated: “As for claims 2 and 3, Kamata teaches the wireless transmission of remote control signals. The examiner interprets this as encompassing radiation signals in general, including both optical frequency radiation signals and radio frequency radiation signals.”

Since claims 2 and 3 are dependent upon claim 1 they include all the limitations of claim 1. The rejection of claim 1 was overcome in 6. above. In addition, as explained above, the signal transmission part of Kamata is only designed to transmit control signals to the camera. So this rejection is overcome.

8. The Examiner stated: “As for claims 21-23, the examiner interprets the method described as substantively equivalent to the system of claims 1-3 respectively, and therefore claims 21-23 are rejected for reasons described above.”

The Applicant believes that the Examiner meant claims 22-23 and 2-3 here. The Applicant agrees that claims 22-23 are equivalent to claims 2-3 and therefore this rejection is overcome for the reasons described above.

9. The Examiner stated: “As for claim 4, Kamata in view of Ford discloses a waterproof digital electronic camera system according to claim 1, but is silent on the electronic signal interface of said camera as specifically being a serial interface. The examiner takes Official Notice that digital signals are transmitted

either serially or in parallel. Thus, it would have been obvious to one of ordinary skill in the art to include a serial digital electrical interface in the system of Kamata wherein the converter converts digital signals upon the interface to serial signals in space in order to transmit image information in serial form to a remote location via a wireless network or link. As for claim 5, the examiner takes Official Notice that an RS-232 is a type of digital serial interface, and thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use an RS-232 serial interface as a common means of serial communication in the camera system of Kamata.”

Claims 4 and 5 are dependent claims and thus incorporate all the limitations of the claim from which they depend. Therefore, this rejection has been overcome by virtue of the arguments and amendments presented above. In addition, as explained above, the signal transmission part of Kamata is only designed to transmit control signals to the camera. So this rejection is overcome.

10. The Examiner stated: “As for claims 24 and 25, the examiner interprets the method described as substantively equivalent to the system of claims 4 and 5 respectively, and therefore claims 24 and 25 are rejected for reasons described above.”

The Applicant agrees that claims 24-25 are equivalent to claims 4-5 and therefore this rejection is overcome for the reasons described above.

11. The Examiner stated: “Claims 14-20 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamata in view of Ford in further view of Fraker (US 5089895.) As for claim 14, Kamata in view of Ford discloses a waterproof digital camera as in claim 1, but is silent on the potting of the camera and converter in an optically clear dielectric material. Fraker, however, teaches the potting (encapsulation) of a camera system and its components in a clear dielectric material (plastic material.) (See column 1, lines 42-48.) Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use potting of the camera and its components in the camera system of Kamata in view of Ford in order to provide a housing that protects the camera against damage in hostile environment in an underwater application. As for claims 15 and 16, Fraker teaches that the potting material is plastic. (See column 2, line 24.) The examiner interprets this as consisting essentially of both plastic and polycarbonate plastic groups. As for claim 17, the examiner interprets the enclosure of the camera system of Fraker as containing only solid masses, essentially without gas, wherein the camera is potted. (See

figure 5.) As for claims 18-20, the examiner interprets the variation of the dielectric material and its physical state (either solid, liquid or fluid) as an obvious variation to the previously rejected claim 17. The matter of which type of dielectric material is interpreted as a matter of design choice, and thus claims directed toward such are viewed as obvious variations to prior art teaching. As for claim 32, the method claimed is interpreted as substantively equivalent to that of claim 19, and is thereby rejected for reasons described above.”

Claims 14-20 and 32 are dependent claims and thus incorporate all the limitations of the claims from which they depend. They depend ultimately on claims 1 and 21. Therefore, the rejection in view of Kamata and Ford has been overcome by virtue of the arguments and amendments presented above.

In the instant invention, the entire camera, including the lens, is encapsulated. See Figures 1, 3 and 8; page 18, lines 28-29; and page 24, lines 9-13. If one carefully examines Fraker (see Figures 1 and 5 and the description from Column 4, line 8 to Column 6, line 40) it is very apparent that there is no plastic covering front of the lens. So, Fraker does not, as the Examiner states, teach potting the entire camera and components in plastic. Fraker takes no steps to exclude air from the inside of the camera or lens, or fill the camera or lens with dielectric material or plastic. In fact Fraker is very careful to protect the lens from contact with the plastic. If one were to lower the invention of Fraker to great depth in the ocean, it is clear that pressure would break the lens and flood the interior of the camera with water. In the instant invention the lens is covered by plastic so it can never be broken. Also, in the instant invention the camera and the lens are filled so as to exclude air. See claim 17 for example. So combining Kamata, Ford and Fraker would never yield the instant invention.

12. The Examiner stated: “Claims 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daspit (US5678091) in view of Fraker. As for claim 33, Daspit teaches a camera within a chamber that can be made operable at any depth. (See column 1, lines 63-67.) Daspit is silent on the electronics of the underwater camera system as within a solid mass of clear dielectric material. Fraker, however, discloses a digital electronic camera in which the optics and electronics of the camera are permanently within a solid mass of dielectric material containing essentially no gases whatsoever. (See figure 5.) Thus, it would have been obvious to apply the teaching of Fraker in the camera of Daspit in order to protect the camera against the harsh underwater environment as well as aid in the protection of the camera and its components. As for claims 34-36, the camera of Fraker is interpreted as potted inside and out in a solid

block of clear dielectric material, namely plastic. (See column 1, lines 42-51.) As for claim 36, polycarbonate is interpreted as encompassed within the term plastic.”

First, the invention of Daspit cannot be operated at any depth. Daspit nowhere identifies the depth limitation for his invention. The sentence at column 1, lines 63-67 actually says: “That is, there is a pressure front of clear water that displaces the turbid waters from the viewing chamber, said clear water being pumped into said chamber at a pressure in excess of the surrounding turbid waters at whatever depth.” This does not mean that the device is operable at any depth.

Second, Daspit is not clear on the construction of the camera housing. Examination of the Figure 2 shows an air gap surrounding the camera and lens. So, it is clear that the Daspit invention must be depth limited.

More light is shed on the subject by the sentence at column 4, lines 33-37, which says: “Clear water is from a remote source as shown, and is ensured by providing a filter 25 drawing water from a surface source at 26 and delivered under pressure by a pump 27, exceeding the water pressure at the depth of the viewer, whatever it may be.” Pump and hose limitations will limit the depth at which clear water can reasonably be delivered. Also this invention is intended to be used by human divers and divers cannot be immersed to any depth.

The inapplicability of the teachings of Fraker to this invention was previously discussed. Therefore, the Applicant respectfully traverses this rejection.

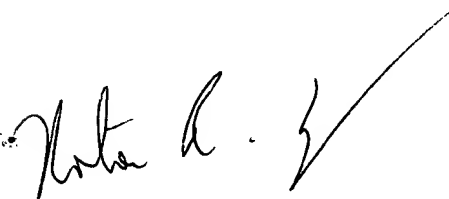
13. The Examiner stated: “Claims 6-13, 26-31 and 37-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art discloses a waterproof digital camera system as in claim 1. However, prior art does not teach or fairly suggest a waterproof digital camera system including the specifics of a converter, shutter and trigger circuitry, and rechargeable power source as described by the limitations of claims 6-13 and the analogous method claims of 26-31. In addition, prior art does not teach or fairly suggest the liquid-tight exterior case of claims 37-41.”

The Applicant has presented new claims 42-58 which are claims 6-13, 26-31 and 37-41 rewritten in independent form including all of the limitations of the base claim and any intervening claims. Therefore, new claims 42-58 should be allowable.

An additional fee of \$279 is due on account of the above amendments. See attached Patent Application Fee Determination Record. A credit card authorization for this amount is attached. Also enclosed is a Disclosure Statement with copies of the cited patents.

Reconsideration of this application and its early allowance are respectfully requested in view of the above presented amendments and remarks.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Norton R. Townsley", followed by a large checkmark.

Norton R. Townsley  
Applicant's Attorney  
Registration No. 33,608  
BELASCO JACOBS & TOWNSLEY, LLP  
100 Corporate Pointe  
Suite 330  
Culver City, CA 90230  
Phone: (310) 743-1188  
Fax: (310) 743-1189